



EDMUND G. BROWN JR.
GOVERNOR



MATTHEW RODRIGUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

State Water Resources Control Board

Kenneth A. Harris, Jr., State Oil & Gas Supervisor
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Division of Oil, Gas & Geothermal Resources
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FINAL CONCURRENCE ON THE DOLLIE SANDS OF THE PISMO FORMATION AQUIFER EXEMPTION DOCUMENT, ARROYO GRANDE OILFIELD

Dear Mr. Harris:

State Water Resources Control Board (State Water Board) staff, in consultation with the Central Coast Regional Water Quality Control Board staff (collectively Water Boards), have reviewed Freeport-McMoRan Oil & Gas LLC's request for an aquifer exemption for the Dollie Sands member of the Pismo Formation in the Arroyo Grande Oilfield (Exemption Request). The Exemption Request proposes an aquifer exemption for the Dollie Sands of the Pismo Formation within an area of approximately 1.5 square miles of the Arroyo Grande Oilfield.

On August 7, 2015, State Water Board staff preliminarily concurred with the Exemption Request pending the State's public comment process. On August 20, 2015, the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) published notice of the Exemption Request and opened a public comment period that closed at the conclusion of a joint public hearing held by DOGGR and the State Water Board on September 21, 2015. On December 2, 2015, DOGGR opened a second public comment period that closed on December 16, 2015. DOGGR and the State Water Board have reviewed and responded in writing to the comments received during the two comment periods and public hearing.

Based on a comprehensive review of the Exemption Request, a finding that the requirements of Public Resources Code (PRC) section 3131 are satisfied, and a review of comments, State Water Board staff concur with the Exemption Request and support DOGGR in forwarding the request to the US Environmental Protection Agency for final determination.

As required by PRC section 3131(a)(1) and 40 CFR §146.4, the proposed exempted area does not currently serve as a source of drinking water and it cannot now and will not in the future serve as a source of drinking water because it is currently hydrocarbon producing and is expected to continue to produce commercial quantities of hydrocarbons in the future. In addition, as per PRC section 3131(a)(2), the injected fluids are not expected to affect the quality of water that is, or may reasonably be, used for any beneficial use, as long as the conditions described below are satisfied for current and future underground injection control (UIC) projects in the aquifer.

FELICIA MARCUS, CHAIR | THOMAS HOWARD, EXECUTIVE DIRECTOR

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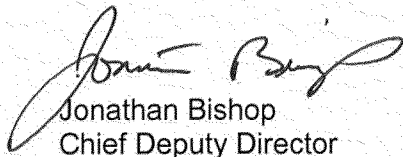
The requirement of PRC section 3131(a)(3) is also satisfied because a detailed technical demonstration has been made that the injected fluid is expected to remain in the proposed exempted area due to a combination of geologic conditions and hydraulic controls. Geologic features include a synclinal structure, a fault barrier on the north side of the proposed exempted area (Arroyo Grande fault), and stratigraphic conditions on the south side of the proposed exempted area (decreasing permeability and transmissivity from the Dollie Sands transition into Miguelito member of the Pismo Formation). Injected fluids in the proposed exempted area should also be contained hydraulically, both vertically and laterally, due to the inward hydraulic gradient created by oilfield dewatering activities in the proposed exemption area.

Approval of Class II UIC projects and permits will involve a joint review by the DOGGR and the Water Boards. DOGGR and the Water Boards will consider incorporating the following conditions into Class II injection project approvals and permits to provide assurances that the injected fluid will remain in the proposed exempted area:

- 1) Use of sentry groundwater monitoring wells on the boundaries of the proposed exempted area where groundwater is currently or could potentially be of beneficial use. The quantity, spacing, and location of these wells would be designed to ensure early detection of any change in water quality outside of the proposed exempted area due to UIC activities.
- 2) Creation of a buffer zone between the location of Class II UIC wells and the boundary of the proposed exempted area such that the injected fluids remain within the proposed exempted area.
- 3) Monitoring and maintenance of formation pressure and monitoring of groundwater elevations in the proposed exempted area to ensure that groundwater elevations within the exempted area do not exceed the synclinal structural containment feature.

If you have any questions regarding this matter, please contact Mr. John Borkovich at (916) 341-5779 or john.borkovich@waterboards.ca.gov.

Sincerely,



Jonathan Bishop
Chief Deputy Director

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